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VOLKMAR WENTZEL

PLENTY OF ROOM ON TOP FOR SCIENTISTS OF THE NATIONAL GEOGRAPHIC EXPEDITION IN NEPAL

Fording a stream in the wild Karnali Valley, the elephant transport takes the men to a part of the secluded Asian kingdom (Bulletin No. 3) never before visited by Western scientists.

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Bulletin No. 1, March 21, 1949

Vieques, War-Game Stage, Was Pirate Refuge

THE little-known United States island of Vieques has added to sugar and cattle a new industry—the business of hemisphere defense.

Lying off the east coast of Puerto Rico, this small Caribbean island long ago had its share of fighting and gunplay. It was a hideout for Indians rebelling against their Spanish conquerors. Later it served as a base and refuge for the buccaneers who pillaged the surrounding seas.

Smaller than the District of Columbia

The eastern half of Vieques has been permanently assigned to the Navy for its maneuvers. The island is now repeating its 1948 role as an "enemy"-held beach in amphibious tests of the combined services. Army, Navy, Air Force, and Marines are staging the most extensive "war games" they have ever held together. Canadian Army units joining in 1949 maneuvers emphasize the hemisphere character of the operations.

Unfamiliar though the name may be to many citizens of the continental United States, Vieques has for half a century been a United States isle. It is about 20 miles long and five miles wide.

To the Indians of the 16th century, Vieques was the dividing line between tribes of the Greater and the Lesser Antilles. To the west of the little island lie the Greater Antilles, giant islands of the West Indies—Puerto Rico, Hispaniola, Cuba, and Jamaica; to the east, the much smaller Lesser Antilles curve down to South America.

As early as 1511, Borinquen Indians, to escape from Spanish invaders of Puerto Rico, took refuge on Vieques. There, in addition to a safe retreat from the *conquistadors*, they found help from their natural enemies, the Carib Indians, whose empire was from Vieques southward.

Vieques is one of the 77 municipal districts under the government of Puerto Rico, as are smaller Culebra to the north, and Mona, 50 miles west of Puerto Rico in Mona Passage. In geological upheavals of ancient times, Vieques nearly became a Puerto Rican peninsula, since the undersea ridge between the two islands is only 60 feet at the maximum depth.

Only Town Has 3,000 People

Rock-strewn coastal lowlands surround a chain of low hills to make up the island's surface. There are no harbors, but anchorages serve as substitutes. Twenty miles of roads traverse the best sugar-cane country westward from Isabel Segunda, midway of the north coast. The only settlement that can be called a town, Isabel Segunda has about 3,000 residents. The 1947 estimate of the island's population was nearly 11,000.

Lack of rain and absence of streams handicap agriculture on Culebra, seven miles north of Vieques, and one-fifth the latter's size. Culebra's population of farmers and fishermen numbers less than 1,000. Its sheltered natural harbor, however, attracted naval leaders years ago, and units of

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THOMAS KENT

IN THIS NARROW STREET A SINGLE PASSING CART WOULD CROWD DOG AND MEN TO THE WALLS

Old stone houses, huddling close together as though to shut out biting winter winds, wall in the canyonlike street leading down to Kirkwall's harbor. Sandstone quarried on the woodless isles supplied material for houses and pavement. From this chief town of the Orkneys (Bulletin No. 5) ships sail regularly to British mainland ports, to Lerwick in the Shetlands (the Orkneys' sister islands to the north), and to other isles in the Orkney group. Incoming, ships bring such necessities as flour and lumber; outgoing, their chief cargo is herring, product of that island occupation which shares importance with farming. Orkney and Shetland join to send a member to Britain's Parliament.

Bulletin No. 2, March 21, 1949

Scientists Traverse Nepal's Rugged Roads

WHILE an American scientific expedition is delving into secret valleys of Nepal, the secluded country in the remote Himalayas has applied for membership in the United Nations. Both these facts are evidence that the princely state is abandoning its ancient policy of "keeping itself to itself."

A swaying seat on an elephant's back (illustration, cover), or a jolting ride on a rough buffalo cart is transportation for members of the American expedition now penetrating long-forbidden areas of Nepal.

Elephants Replace Engines for Transport

Modern expeditions, even into deepest Africa and central Asia, can often use motor caravans. On good roads, these trips are about as adventurous as a Sunday drive in the family automobile. In the rugged fastnesses of the mountains and valleys of Nepal, however, scientists studying the wildlife and native customs have had to leave behind their motorized equipment, and take to primitive native transport.

"We are quite a sight, movie-wise and still-wise, with our six buffalo carts and three elephants," the party's leader, zoologist Dillon Ripley, reported recently to the National Geographic Society, which is sponsoring the exploration jointly with Yale University and the Smithsonian Institution.

When the expedition reached the jumping-off place—Kauriala Ghat, Indian railhead near the frontier with western Nepal—it found neither telephone nor telegraph. "There is not even mail," wrote Dr. Ripley, "unless you hire runners, which we shall have to do to get food for our men."

The group has, however, the cooperation of local officials of India and Nepal, and the unique permission from the Maharaja of Nepal to visit the walled-off western valley of the Karnali. In this valley the inhabitants had heard of white men but had never seen any. Almost nothing is known of this region as all outsiders have previously been barred.

Tigers Showed Only Tracks to Hunters

The expedition pushed up the Karnali River for 60 miles, nearly halfway to Tibet, and into the region where loom nameless snow ranges. Many photographs were made of the life of the inhabitants (illustration, next page). Information useful to map makers was gathered. A number of small animals were taken, and more than 300 bird specimens.

At night jackals surrounded the tents. Cranes, ducks, and waders of many species thronged the river. The expedition members saw only one leopard, but axis deer, sambahr, and wild pig were very common. Large tiger tracks indicated that these jungle kings were numerous, but none were seen by the party.

The expedition complement included three elephants and 100 beaters and bearers. Hunting objectives were not only specimens for scientific research but meat to feed the hungry members of the party.

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the Atlantic Fleet have frequently held maneuvers in the restricted waters of Vieques Sound between Vieques and Culebra.

During the 17th and 18th centuries, British, Dutch, and French privateers roamed the Antilles, plundered many a Spanish galleon of its gold, and made vain attempts to wrest the Caribbean islands from Spanish control. It was not until 1854 that the Spanish government of Puerto Rico formally annexed Vieques, but on many occasions Puerto Rican defenders tracked down European enemies hiding in the coves along Vieques shores.

NOTE: Vieques may be located on the National Geographic Society's map of the Countries of the Caribbean. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

See also "*Carib* Cruises the West Indies," in the *National Geographic Magazine* for January, 1948; "Americans in the Caribbean," June, 1942 *; "West Indies Links in a Defense Chain" (21 color photographs), January, 1941 *; and "American Virgins," September, 1940 *. (*Issues marked with an asterisk are included on a special list of Magazines available to teachers in packets of ten for $1.00.*)

LINKING THE GREATER AND LESSER ANTILLES, VIEQUES IS A STEPPINGSTONE BETWEEN UNCLE SAM'S CARIBBEAN AREAS, PUERTO RICO AND THE VIRGIN ISLANDS

British Plans Affect Varied Africa Holdings

MORE than a dozen countries and fifty million people, ranging from spear carriers in the jungle to skilled and professional groups in modern cities, are involved in Great Britain's plans to coordinate the economic development and foster the political growth of its African holdings.

The British colonies and former mandates, now trusteeships under the United Nations, are scattered over east, west, and south-central Africa. In addition is the vast Anglo-Egyptian Sudan, now administered jointly by Great Britain and Egypt.

Mohammedans and Christians

The solely British-held territories have a combined area about three-fourths that of the United States. With their swamps and deserts, tropical lowlands and perpetually snow-crowned peaks, they present a cross-section of the world's terrain and climate.

The native peoples of British Africa include Mohammedans and Christians, along with millions of pagan nature-worshippers whose everyday life is dictated by spells and fetishes of medicine men.

Beyond busy sun-baked ports, crowded cities, and developed plantation areas stretch wild regions roamed by elephants and giraffes and sparsely settled by tribal groups still following ancestral ways.

Along jungle-smothered rivers and on high, dry plateaus, many of these tribes are organized under the primitive economy of nomad shepherds, small farmers, bush hunters, and fishermen. They live in tents and mud houses (illustration, next page), in sharp-roofed reed huts, and in mushroom-shaped grass dwellings.

Racial types range from yellowish to chocolate brown. Costumes vary from flowing white robes and turbans to the near-nakedness of loincloth and fantastic hairdo. Beauty aids and ritual adornment may be scar designs or tattooing, pounds of metal rings, ear ornaments, or plates that stretch the lips into grotesque forms familiar to circus-goers.

Colonies Are Separated

General economic planning is further complicated by the fact that British Africa is split into a number of big and little segments. Between the main western and eastern divisions lie the huge central areas of French Equatorial Africa and the Belgian Congo.

In the west, British Gambia, Sierra Leone, the Gold Coast, and Nigeria are widely spaced units along the continent's "great bulge." Only the former German colonies share a common frontier and government with any of the other segments. The present trusteeship of British Togoland adjoins the Gold Coast. British Cameroons is next to Nigeria.

In the east, Uganda, Kenya, and the Tanganyika trusteeship, together with Nyasaland, Northern Rhodesia, Southern Rhodesia, and Bechuanaland, form a continuous geographic bloc. They, too, however, are governed as individual states, and are separated from several other British possessions, including small but strategic British Somaliland.

British Somaliland, on the northeast "horn" of Africa, long guarded

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From the Karnali Valley the expedition crossed the country to eastern Nepal. At Biratnagar, the country's only industrial town, members of the party visited jute, cotton, and sugar mills before taking off for the Kosi Valley.

This valley, whose river is being studied for hydroelectric projects benefiting both Nepal and India, lies on approaches to giant Mt. Everest. The scientists hope to get hitherto unknown views of the world's highest mountain.

For the expedition's study, these walled-in basins in the southern foothills of the Himalayas are a laboratory never before used by men from the Western world. The central valleys around Katmandu, the capital, and parts of the Terai which is the secluded kingdom's "lowland" along its southern border with India, are the only areas to which Westerners are usually admitted.

Besides Dr. Ripley, the expedition includes E. C. Migdalski of Yale's Peabody Museum; two assistant mammalogists, Howard C. Weaver and Richard G. Mack; Volkmar Wentzel, National Geographic Society representative, and Francis Leeson, his assistant.

NOTE: Nepal is shown on the National Geographic Society's map of India and Burma.

For further information, see "Nepal, the Sequestered Kingdom," in the *National Geographic Magazine* for March, 1935; and, in the GEOGRAPHIC SCHOOL BULLETINS. October 18, 1948, "Scientists Seek Wildlife Secrets in Nepal"; and "Nepal, Land of Mystery, Loses Isolation," April 28, 1947.

MART N HURLIMANN

THE WHITE MAN'S PICTURE BOX BAFFLES TRIBESMEN FROM NEPAL'S HILL COUNTRY

With a mixture of expressions as varied as that of the blood that runs in their veins, a group of Nepalese from the Himalayan foothills poses for the strange white camera man. Few outsiders come to their remote villages and an American is perhaps stranger to them than they appear to him. Natives of this central-Asia land include among their ancestors Burmese, Indians, Siamese, and Tibetans. Haircuts, in honor of this market-day jaunt, have the general symmetry of a clipped hedge.

Aided by Engines, Man Outspeeds Animals

THE jet-fighter flight record of 670.98 miles an hour, recently set, topped by the reported 1,000-miles-per-hour achievement of a rocket-propelled test ship, has pushed inventive man far ahead as the world's "fastest thing." But without mechanical help, he could not hold this place.

The deer botfly was once hailed as king of speed, credited with 800-odd miles an hour. Scientific experiments showed, however, that the botfly's rate was probably closer to 25 miles an hour. At 64 miles an hour, it was found that the insect would become invisible. At greater speeds, it would virtually "burn up."

Dragonfly Is Speed King of Insects

The nearest competitor to flying man is perhaps the frigate bird. Timed by ships' chronometers, its reported speed is 261 miles per hour. The well-named swift, it is claimed, has been clocked above 200 miles an hour. The peregrine falcon may swoop, dive-bomber fashion, to its prey at 200 miles an hour.

Compared with such bird champions, the insect speedsters take a back air lane. The fastest is believed to be the dragonfly, timed at nearly 60 miles an hour. One observer recorded a group, traveling with a tail wind, at more than 70 miles an hour.

Without his mechanical wings man takes the dust of many land creatures. His top speed on foot is little more than 22 miles per hour, figured on short spurts. The cheetah, or hunting leopard (illustration, next page) heads the list. This spotted member of the cat family can make as much as 70 miles an hour. Even 80-mile records have been claimed for the beast when pursued by automobile.

Near the cheetah class but with greater long-distance endurance are the pronghorn and the Mongolian antelopes. Automobile speedometers have registered 60 miles an hour and more for these hardy mammals. By contrast, the highest speeds reported for racing horse, hare, and greyhound seem almost in slow motion. Their rates of speed are 48, 45, and 40 miles an hour respectively.

Sloth and Snail Are Synonyms for Slow

In the water man again falls behind. His speed in this medium is about four miles per hour, or the pace credited to the octopus. The swordfish is probably the leader among creatures of the sea. The faster members of this marine family are believed to move through the water almost as fast as the cheetah on land. So fleet is the swordfish that one was reported to have cut through a ship's side of copperplate and 20 inches of wood, with torpedo-like effect.

What is the "slowest thing?" Sloth and snail are the words which come first to mind. However, other creatures, including the burrowing earthworm, have been found to be slower.

Experiments have indicated that it is possible to so excite the sloth with stimulants that it will cover a mile in an hour. A snail's pace, the

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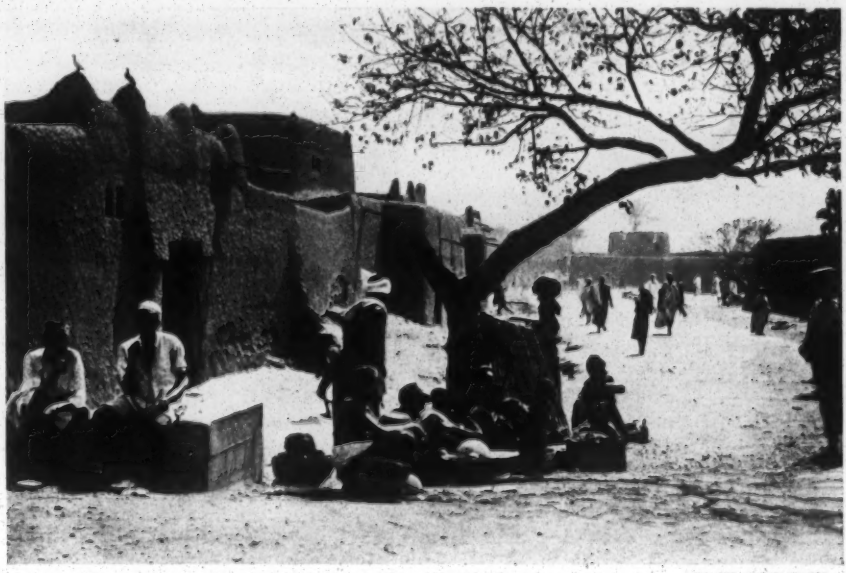
the Red Sea outlet of the British lifeline to India and the Far East. The empire's proposed new lifeline, planned to link east and west Africa, is an overland one. It will reach from Nigeria's Atlantic coast to Kenya on the Indian Ocean.

Resources available for development in all of Great Britain's assorted African holdings are as varied as their terrain and peoples. Among them are tropical and highland agricultural products, precious and industrial minerals.

The list covers everything from cocoa to iron ore, from peanuts—whose production already is a major industry in some states—to diamonds, platinum, and tin.

NOTE: British holdings on the African continent may be located on the Society's map of Africa.

For additional information, see "Carefree People of the Cameroons," in the *National Geographic Magazine* for February, 1947; "The British Commonwealth of Nations," April, 1943; and "Trans-Africa Safari," September, 1938*.



WALTER MITTELHOLZER

THIS MUD-BRICK MOHAMMEDAN METROPOLIS IN NORTH NIGERIA IS A BIT OF ENGLAND IN AFRICA

In Kano, large market city of Nigeria, native merchants spread their wares in the wide, dusty street. The dilapidated tree provides a base, but little shade, for this casual market. The stock includes such native handicraft as pottery, leather objects, and woolen blankets of gaudy colors, rivaling in their striking design the Navajo blankets of the United States Southwest. Houses in the background are made of mud bricks, the building material of the region. On small projecting points of the roofs, pigeons pose like permanent ornaments.

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Orkneys Need No Extra Summer Daylight

THE arrival of the first day of spring launches the annual discussion of daylight-saving time. Ever since 1916, when Britain, as a wartime fuel-saving measure, set the clock hands ahead an hour during spring, summer, and autumn, the approach of the vernal equinox has been the signal for renewal of arguments for and against this time shift.

Although an act of parliament has legalized it, not all the British Isles approve of "summer time." For several years the Orkneys have declined to follow their sister islands of the group in their clock maneuvers. To residents of these little islands scattered off the northeast tip of Scotland, summer daylight time is "coals to Newcastle."

Long Summer Evenings Come Naturally

Strewn across the 59th parallel of latitude, the Orkneys have almost no night in summer. On the year's longest day the sun rises at 3 a.m. Even when it sets at 9:25 p.m., it sinks so slightly below the horizon that at midnight the light is strong enough for taking pictures, reading, or playing golf—Scotland's own game. However, the Orkneys pay for their continuous summer light by short dark winter days.

The Orkney Islands number 67, not counting very small rocky islets. A county of Scotland, their total area is less than 400 square miles. Fewer than half the islands are inhabited. On a number of them the only residents are lighthouse keepers and sheep. Some of the more desolate serve merely as roosts for the great flocks of sea birds that have long attracted naturalists to the region.

The islands have a population of about 22,000. Kirkwall, the chief town, is located on the east coast of Mainland, the largest island (also called Pomona). It was chartered nearly five centuries ago, but its establishment dates from the period of Norse rule. Its impressive St. Magnus Cathedral was built in the 12th century and is in a remarkable state of preservation. Built of native sandstone, as a monument to the patron saint of the Orkneys, the structure towers above the low stone buildings that huddle along Kirkwall's narrow streets (illustration, inside cover).

Scottish Influence Succeeds Norwegian

Fishing and boatbuilding are the chief occupations of this town of some 4,000 people. The only other settlement of any size is Stromness, about half as large as Kirkwall, on the western side of Mainland.

Most of the Orcadians are of Norse descent, with a strain of Scottish blood. Norse was spoken until the end of the 18th century. By this time, Scots, pouring across Pentland Firth from the mainland, had submerged the islanders' language in their own.

Most of the islanders are fishermen or farmers. They grow barley, oats, and such root vegetables as potatoes (illustration, next page) and turnips, and raise livestock. One of Scotland's most prosperous farm counties, the islands are of red sandstone formation. The soil is fertile

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epitome of slowness, actually has been scientifically measured. One particular study disclosed that certain types of snail travel only 23 inches in an hour.

The slug, closely related to the snail, is a slow-moving, slimy creature whose very name contributes to the language such synonyms for lack of speed as sluggard and sluggish.

NOTE: For additional material on swift-moving birds and beasts, see "Sights and Sounds of the Winged World," in the *National Geographic Magazine* for June, 1945; "King of Cats and His Court," February, 1943; "Kentucky, Boone's Great Meadow" (horses), July, 1942; "Life with an Indian Prince," February, 1942; "Stalking Birds with a Color Camera," June, 1939 *; and "We Live Alone and Like It—On an Island," August, 1938 *.

JOHN AND FRANK CRAIGHEAD

A FEROCIOUS SNARL BELIES THE FACT THAT THIS CHEETAH IS THE PET OF AN INDIAN PRINCE

Trained like a hunting dog, this spotted cat from the African jungles relaxes in the gardens of the Maharaja of Bhavnagar, in India, when not engaged in his professional duties of tracking down game for his master. He is "streamlined" for speed, with long legs, and narrow head and body. The boy at the left is holding a falcon, bird rival of the cheetah in the world of speed.

and about 45 per cent of the total area of the land is under cultivation.

Fierce winds sweep across the treeless Orkneys with their wild moors and wave-lashed coasts. But the Gulf Stream so tempers the climate that winters are mild. Sea bathing is pleasant in summer.

Burial mounds, circles of stones, and underground dwellings indicate that the Orkneys were occupied long before the arrival of the Vikings. The latter and their descendants ruled until the Scots took over in the 15th century.

Dramatic episodes in history have been played on the stage of the Orkneys. Mary, Queen of Scots, figured in the island's early history. She named her third husband, the Earl of Bothwell, Duke of Orkney. A castle on one of the islands was proposed as a refuge for the queen after her flight from Loch Leven. In 1650 the Orkneys were the rendezvous for the ill-fated expedition of the Earl of Montrose. On Shapinsay was born the father of Washington Irving.

During the two world wars, Scapa Flow, the broad anchorage in the southern Orkneys, was a naval base, playing an important role in the struggle for the northern seas. There the German fleet, interned after its defeat in 1918, was scuttled by its own crews.

NOTE: The Orkney Islands are shown on the Society's map of the British Isles.

For further information, see "The Orkneys and Shetlands," in the *National Geographic Magazine* for February, 1921.

THOMAS KENT

BASKET, BAG, AND BUCKET STAND BY TO RECEIVE AN ORKNEY POTATO HARVEST

The whole family lends its hands to harvest the potato crop, a staple food in these northern islands. Beyond the digging group stand the native-sandstone farmhouses, typical of the Orkneys. As there are no trees on the windswept isles, peat is the customary fuel. Looming large beyond the gate (center) is the peat stack, almost the size of a cottage.